

1 spectrum for each license?

2 And have you looked at the trade-off in
3 that context between the costs of having to develop
4 a service with less spectrum?

5 MR. KELLEY: Where are we now? We are at
6 about 120 megahertz total. I don't know if that's
7 the right answer or not, but I don't want to reopen
8 that debate for the same reasons I mentioned in my
9 introductory remarks. Let's not reopen that
10 debate. Let's get service out as soon as we can.

11 But in a world where you have a choice
12 between six 20 megahertz licenses and four 30
13 megahertz licenses, I think I have heard from the
14 technical folks.

15 I have heard from people who are worried
16 about the spectrum clearing problems in some of the
17 existing bands that your -- you might get service
18 to people faster and more ultimate competition
19 sooner with a smaller number of larger allocations
20 rather than a larger number of smaller allocations.

21 MR. HALLER: You said earlier -- and I am
22 a little confused on this -- a smaller number of

1 larger allocations. Then you made a statement of
2 increasing diversity of the licensees, if I
3 understood it correctly. And it would seem to me
4 to be in conflict if I understood what you are
5 saying.

6 UNIDENTIFIED SPEAKER: Yes, that's
7 right. There's a transfer. The question is can
8 someone come in and be a viable competitor with
9 cellular or provide a viable wireless loop
10 technology with 10 megahertz allocation.

11 And everything I have heard, and I
12 suppose we are going to talk a lot more about this
13 tomorrow. Which is good. But everything I have
14 heard suggests that that is probably not a good
15 situation, that those tens might not be effective
16 in those roles. And that is not good.

17 Will 20 be effective? Let the engineers
18 answer that question. What I have heard is that
19 given the spectrum clearing problems, 30 is about
20 the minimum that you need to be viable to go head
21 to head against the existing cellular guys.

22 And if you do 30, you are going to have a

1 smaller number of total licensees, but you might
2 have more effective competitors when you are all
3 done at the end of the day.

4 MR. PEPPER: Could we get back to a
5 question I think that Jerry raised. I think it was
6 Jerry. When he said that if we have low cost
7 providers and we have enough of them it will drive
8 prices towards cost.

9 MR. HAUSMAN: Yes.

10 MR. PEPPER: One of the questions is what
11 is a -- can you identify or talk a little bit about
12 a minimum sufficient number of competitors to drive
13 those prices to costs assuming we multiple low cost
14 providers in the market.

15 MR. HAUSMAN: Yes. Well, let me just
16 repeat who I think the group of potential low cost
17 providers. I mean, besides new entrants who are
18 just efficient.

19 You know, I think they are LEX, the
20 cellular people, the cable, and I should have also
21 said the IXCs, and ESMR people. So we have that
22 group.

1 I think that five competitors are enough,
2 probably more than enough to drive it down and have
3 quite a competitive market.

4 Now, if you take the merger guidelines
5 literally, they -- the merger guidelines would say
6 six would say six.

7 But in practice what the Justice
8 Department has actually done historically in terms
9 of challenging mergers -- you know, you don't know
10 every merger that they have challenged, but I think
11 I probably am aware of what they have been doing
12 over the last 10 years. I think five is really the
13 number to aim for, that you don't want to end up
14 with four or fewer. But I think five or six are
15 there.

16 I think once you get beyond five or
17 six -- this is why I was trying to answer -- I
18 think you may lose more than you can gain. I don't
19 want to tell you. I want to let the market decide,
20 but you know when you start aiming for eight or
21 nine you start trading off as Mr. Kelley said you
22 know between economies of scale and various other

1 things.

2 So I think you should try to decide what
3 the minimum number is, five or six, and then let
4 the market take it from there.

5 MR. PEPPER: I assume by five or six what
6 you are saying is that you are defining the market
7 in a way that would include cellular incumbents,
8 ESMRs as well as then two to three new entrants.

9 MR. HAUSMAN: Right. Exactly. What I
10 see is that in any region you are likely to have
11 two cellulators, one ESMR -- E-S-M-R. You might have
12 two, but I think one is where will end up.

13 You might have Geotech which would give
14 you two in the 900 band using the frequency
15 hopping. So that is how you could get two ESMRs.

16 But anyway, even if you don't have them,
17 you have two cellulators, one ESMRs which gets you up
18 to three, and I would expect two or three PCSs.

19 MR. PEPPER: And given your approach you
20 would rather err on the side of more than fewer and
21 allow market forces to determine whether it is two
22 or three so you'd argue that you'd want to have

1 three new entrants?

2 MR. HAUSMAN: Yes. I don't think you
3 want to start off -- I would disagree a bit with
4 what Mr. Kelley said. I don't think you would want
5 to start off and say let's have three 40s. I would
6 rather start off with six 20s. And if the market
7 decides that three 40s are better, so be it.

8 But I would rather -- I think it is
9 easier to aggregate than to disaggregate, and how
10 this works given what we have seen in other
11 countries and what we have seen in the cellular
12 here.

13 So, yes, I would rather start off with
14 more competitors, and then if the market can
15 support six, we would see some aggregation among
16 the --

17 MR. PEPPER: What you are talking about
18 basically is adding -- adding three new
19 full-service competitors to start with.

20 MR. HAUSMAN: Yes, that is what I think
21 is likely in densely populated top 50 MSA type MSA
22 type areas. Not necessarily you know, where -- a

1 Twin Falls, Idaho, but in the larger MSAs that is
2 what I would expect.

3 MR. PEPPER: Stan? Dan?

4 MR. BESEN: Let me say I don't think the
5 right question is let's try to determine precisely
6 what the optimal number or the irreducible minimum
7 number is.

8 It seems to me there are -- I have seen a
9 number of plans, all of which if I sort of look at
10 the implications of any of them for concentration,
11 none of them -- over a fairly wide range, they give
12 me no problem. They seem to me not to raise
13 questions of excessive concentration, and
14 therefore --

15 MR. PEPPER: That was a slightly
16 different question. I was the question based upon
17 what Jerry was saying that if you have low cost
18 providers, you know, how many do you need to really
19 drive your prices down towards cost?

20 MR. BESEN: Well, this is --

21 MR. PEPPER: No --

22 MR. BESEN: I think no one can answer

1 that question precisely. I think what one can say
2 is that if in markets that are not terribly
3 concentrated one has a high expectation that that
4 will occur.

5 But because of the difficulty of
6 coordinated behavior, as we know, will be
7 substantial in markets that are un-concentrated.

8 And as a result we expect the firms to
9 behave aggressively and competitively. Whether the
10 precise number is five or six or seven, I'm not
11 sure once can know with precision.

12 I think one can look at particular
13 transactions and particular combinations and ask
14 whether considering other aspects of the market
15 structure those combinations raise competitive
16 concerns.

17 And it seems to me again over a wide
18 range of outcomes the Commission will be hard
19 pressed to choose one of them as in some sense
20 better than the other.

21 The reason one wants to allow these
22 processes to be determined by market process is

1 precisely because costs factors are in fact going
2 to -- in general the low cost provider or the
3 provider that provides the services that consumers
4 find most attractive will be the ones you'd like to
5 have access to the spectrum.

6 Again, within -- that's in fact what
7 you'd like to be the dominant factor that
8 determines the industry structure.

9 The only thing you ought to be doing is
10 worrying about whether you ought to constrain that
11 process in some fashion, whether you ought to
12 establish limits beyond which concentration should
13 not be permitted.

14 It's the fairly reasonable thing to do,
15 but I think those limits are fairly wide.

16 MR. PEPPER: Dan.

17 MR. KELLEY: I think if you can get three
18 PCS players that would be a very good thing. It is
19 clearly a lot better than the two cellular carriers
20 we have now that dominate the existing mobile
21 wireless markets.

22 It would clearly provide you I think with

1 some interesting entry points into a portion of the
2 local telephone business.

3 My concern is when you go beyond three
4 additional players, four additional players -- I
5 don't know what the magic number is -- you start
6 causing problem with the viability of each one
7 because the amount of spectrum they have might not
8 be enough or the clearing problems might slow them
9 down and prevent them from being effective for a
10 couple of years which would not be a good thing.

11 I would disagree with Stan a little bit.
12 And that is that I think you need to worry about
13 the costs of aggregating up to an efficient size if
14 you put out licenses that are too small.

15 That is going to be time-consuming. And
16 if you have a good basis for believing that you
17 need 30 to be viable, start there.

18 MR. BESEN: Bit it works both ways. We
19 are talking again -- we keep talking about
20 aggregating up. It is possible that somebody might
21 decide to take the 20 that was talked about this
22 morning and decide that he only wants 10 of it.

1 And one shouldn't object to that either.

2 The transactions can go either way here.

3 The notion that we can sit here and predict in the
4 face of considerable uncertainty about what
5 services are going to be offered and considerable
6 uncertainty about the technology precisely what
7 the -- the market structure I think is wrong.

8 It's true we have to guess. It is
9 inevitable that one is going to guess in terms of
10 initial allocation -- initial blocks to be
11 licensed, but one should not necessarily take too
12 seriously the idea that we are going to get it
13 precisely right if only we had a few more months to
14 do so.

15 MR. PEPPER: Jerry?

16 MR. HAUSMAN: Let's make one last point.
17 I think you need to -- in answering the question
18 and thinking about how many and what the minimum
19 number is you really have to take into account what
20 the expected economic factors of stylize facts we
21 call it of this industry are.

22 To start with, voice mobile has been

1 growing at 35 percent per year. So for those of
2 you who remember the rule of 70 from junior high
3 that means that the market size doubles every two
4 years.

5 So that there's -- at some point we are
6 going to of course start to reach the inflection
7 point on the S curve. That was brought up this
8 morning.

9 But so far as anybody can see we are
10 nowhere near it yet. And so there will be more
11 than enough customers to go around for everybody.

12 And I think in that type of situation,
13 you know, questions about viability -- we are not
14 talking about the cement industry here which hasn't
15 grown for 35 years and if a new player comes in,
16 you know, an old player may need to exit.

17 I think in this type of industry where we
18 are growing that fast and we expect extremely fast
19 growth, you know, at least over the next five years
20 which is as good as anyone is planning horizon can
21 be in my view, that the viability thing, you know,
22 going back to Michael's question, could we pass out

1 too many licenses, is really just not on radar
2 screen because there is just more than enough
3 demand around for people if they can meet it. And
4 there really won't be barriers to expansion of
5 supply.

6 The whole thing about frequency reuse
7 either for cellular or for PCS, if the demand is
8 out there, you can just split cells. It is
9 expensive to do so, but of course you can
10 economically meet your demand and expand your
11 capacity quite a bit.

12 So I think the point -- the two points,
13 that this is incredibly fast growing -- you know,
14 the only industry since World War II I can think of
15 that has been like this has been the PC industry.

16 And secondly, that the costs are falling
17 and people can easily expand their supply by
18 frequency reuse.

19 I think the whole question of, you know,
20 can we pass out too many licenses or how many
21 competitors do we really need is really sort of a
22 second order.

1 MR. PEPPER: It's going to be interesting
2 in the second panel this afternoon to hear from the
3 investment community in terms of some of the
4 things --

5 MR. HAUSMAN: I can make a point on that
6 right now if you would like.

7 MR. PEPPER: Yes, I --

8 MR. HAUSMAN: If you look at the
9 market -- I think there are two interesting market
10 facts. Number one, Nextel (phonetic) is currently
11 worth about \$6 billion. It was down a point and a
12 half on Friday, but if you capitalize it, it's 6
13 billion. If you take Cencall (phonetic) and
14 Dowpage (phonetic) which are the two other major
15 ESMR providers their market capitalization is \$10
16 billion.

17 They have had no trouble raising capital
18 at all so far as I know. Nextel (phonetic) is
19 going to get money from MCI. And Dowpage
20 (phonetic) has made a public offering. So
21 everybody knows that PCS is going to come in.

22 Nevertheless, the money has been out

1 there for ESMR. I think that is interesting fact
2 number one. That also really makes me leery of a
3 lot of the more pessimistic forecasts on PCS that
4 came out this morning because if those companies
5 are worth \$10 billion that means the market who in
6 my view is not a perfect forecaster but probably
7 better than I can do, things are going to be pretty
8 healthy demand for local telecommunication, you
9 know, if these companies are capitalized at that
10 high value.

11 And then I think the second thing which
12 is interesting is when you came out with the first
13 order last fall I think it's fair to say the 120
14 meg was more than most people expected.

15 In other words, in economics language
16 there was an unexpected event study we can do. Yet
17 the market value of neither the ESMRs nor the
18 cellular companies even glipped (phonetic).

19 So again, the market -- you know, people
20 who are actually putting their money on the table
21 and buying these stocks again must think that there
22 is going to be a lot of demand for mobile services

1 or if they were really worried about Michael's
2 question about too many competitors, I would have
3 expected their stock would fall.

4 MR. PEPPER: Well, there is an
5 alternative explanation of course which is the one
6 that has appeared in a number of the investment
7 analyst reports which, you know, go to some of the
8 other questions which is the block sizes and
9 whether or not seven was so many going in the other
10 direction and --

11 MR. HAUSMAN: But I mean ESMR -- ESMR has
12 only 14 megahertz, and they don't have clear
13 spectrum either. They have the short spacing
14 problem. Yet nonetheless -- and they have -- they
15 built almost nothing. So, you know, if they're
16 worth \$10 billion with only their spectrum and a
17 few, you know, SMR customers, it seems to me --

18 MR. PEPPER: That's why I say it will be
19 interesting this afternoon to hear from the
20 investment community because --

21 MR. HAUSMAN: Yes --

22 MR. PEPPER: -- the question then is I

1 think you -- well, in hearing where there is some
2 agreement is that well, you may not -- we may argue
3 that we shouldn't set a limit that a likely a
4 likely competitive market is five or -- a minimum
5 number of five or six competitors including the
6 incumbents, the two cellular and the ESMR.

7 And the question then is as you add three
8 more whether the fourth, fifth, sixth into the
9 market will be able to raise the capital. That is
10 question to ask for the second panel.

11 And I think that --

12 MR. HAUSMAN: Well, if I might disagree I
13 don't think that is the right question. It is not
14 whether the fourth, fifth, sixth are going to be
15 able to raise the money. It is how much the
16 federal government is going to get out of the
17 spectrum licenses when they are auctioned because,
18 you know, literally if the fourth, fifth, and sixth
19 can't raise money the price could get driven to
20 zero, I'm willing to bet -- which I always am with
21 my students -- that we are not going to see that
22 happen. So that the money will be out there.

1 MR. PEPPER: Any other questions that you
2 want to ask before we move on to second set of
3 questions? Again, we are focusing on market
4 structure.

5 UNIDENTIFIED SPEAKER: If I could clarify
6 one thing, Mr. Hausman, you indicated that you are
7 on record for 20 megahertz was about right? You
8 said that?

9 MR. HAUSMAN: Yes. What I am on
10 record -- could I be precise about it.

11 UNIDENTIFIED SPEAKER: Sure.

12 MR. HAUSMAN: Because I think the 10s are
13 too small. And that -- I can't be sure that you
14 are not going to need more than 20, but the 20s are
15 a good building block in case you need more because
16 it is easy to aggregate from that. And 20s may
17 well be enough.

18 MR. BESEN: Can I actually -- there was
19 some disagreement this morning about whether 10s
20 were enough. Some people thought 10s were enough.
21 It's possible 10s are enough when combined with
22 some -- with somebody's existing allocation. So

1 even if the 10 was not viable by itself it might be
2 viable in might be viable in combination with other
3 holders. Ten might be viable combined with one of
4 the 20s.

5 I guess it is even possible to combine it
6 with one of the 30s under the rule. So it doesn't
7 mean it won't have value in the auction if one
8 participates combining it with something else.

9 That in fact -- the only reason that it
10 wouldn't obtain its full value is it -- it would
11 involve the cost, whatever costs there are of the
12 recombination. If those are small, then a 40 would
13 sell for the same as a 10 and a 30.

14 MR. HAUSMAN: I would actually like to
15 disagree with one point on that if I might. I
16 think that is true in principle, but the current
17 position is that the 30s are in the low band and
18 the 10s are in the high band.

19 And it is my understanding, and some of
20 the economic analysis I have done seems to confirm
21 this. That those would be quite expensive to
22 combine just because of the gap in the spectrum.

1 It might be much more economical if you wanted to
2 have combination to have them adjacent to each
3 other or at least in the same lower block or the
4 higher block rather than trying to span lower block
5 and adding a 10 from the higher block.

6 MR. VAUGHAN: Can you quantify that? If
7 we switch, the Commission were to switch -- put the
8 10s in the lower block? Is that significant
9 economic --

10 MR. HAUSEMAN: Well, what I'm saying is
11 is that I think if you wanted to have 10s and if
12 Stan is right you want to have a mixture beside
13 each other so that when they are aggregated you
14 could have -- yes, it's my understanding that the
15 kind of numbers you can come up with are about a 15
16 to 30 percent cost difference in terms of the
17 receivers because of, you know, the amplifiers and
18 the various things you have to put in.

19 Now, I can't say that I can independently
20 do that because I can't price out a cellular
21 receiver, but those are sort of the types of
22 numbers that I have been told and heard and seem to

1 make sense.

2 UNIDENTIFIED SPEAKER: We are going to
3 pursue that tomorrow with some of the equipment
4 manufacturers.

5 MR. PEPPER: Maybe we could -- did you
6 want to ask any questions.

7 UNIDENTIFIED SPEAKER: No, I wanted to
8 get to the next question.

9 MR. PEPPER: The next question which is.

10 MR. HALLER: Can I get one
11 clarification? I'm curious just on definition of
12 market, if all of you view the market as the same.
13 And I think what I have heard today is that the
14 market is cellular, ESMR, and PCS, and I guess both
15 narrow band and wide band PCS.

16 MR. HAUSMAN: And certain types of paging
17 I would say as well.

18 MR. HALLER: And paging?

19 MR. HAUSMAN: Yes.

20 MR. HALLER: So are all of you including
21 the entire mobile communications market.

22 MR. KELLEY: I would agree that there is

1 a market there and that is sort of primarily what
2 we are looking at effecting with these rules.

3 But as I pointed out earlier, there are
4 other markets you want to look at. You want to
5 look at the local exchange market. And when you
6 are making decisions about how to allocate the
7 spectrum, you want to allocate it in ways that --
8 you know, if it's cost less, you want to allocate
9 in ways that will promote competition there if you
10 can do that.

11 MR. BESEN: In our paper we argue that
12 the market was basically a broad market for mobile
13 telecommunication service, really wireless
14 services. And the reason we argued that was -- had
15 to do with the ability of suppliers to shift among
16 services being provided.

17 So relying primarily but not entirely on
18 substitutability on the supply side we argue that
19 in fact there is a broad market for
20 communication -- for mobile services.

21 MR. PEPPER: So that you are actually
22 looking at the product market as the broad -- what

1 some people refer to as full-service wireless
2 marketplace.

3 MR. BESEN: Well, basically we are
4 arguing that in fact to the extent that firms --
5 because firms can shift with the same -- use the
6 same spectrum to provide any of a variety of
7 services, those services all ought to be defined as
8 in the same market.

9 Those markets -- those separate products
10 are -- not necessarily because consumers regard
11 them as substitutes, although they may -- but
12 because firms can in fact shift among the provision
13 of those services in response to opportunities for
14 profit from one of the other.

15 And that -- that supply side
16 substitutability is what in fact creates a single
17 broad market rather than a set of single -- or a
18 set of smaller separated markets.

19 MR. KELLEY: At the risk of getting
20 myself into deep water technologically, one area
21 where Stan and I might differ is on the size of the
22 licenses. And he is talking about 10s maybe being

1 good, and I'm arguing that you need larger.

2 And one of the reasons is that if you
3 look at PCS as an alternative to part of the local
4 exchange as a wireless loop service, my
5 understandings of the kind of traffic loads that
6 are offered over wireless loops are such that you
7 need larger chunks of spectrum to be efficient.

8 MR. BESEN: Again, there is nothing
9 inconsistent between that and what I have suggested
10 before. It's entirely possible that someone might
11 find 10 perfectly suitable to provide a set of
12 services even though someone else might decide that
13 for the particular set of service that he wanted to
14 provide he might need a larger band.

15 But there is no inconsistency at all
16 between those two views.

17 MR. KELLEY: In fact I say in my written
18 statement that I supplied that there are services
19 you can think of offering where 10 might be
20 enough.

21 My point is that there are other services
22 we ought to be concerned about two.

1 MR. PEPPER: Don, did you want to move on
2 to the second question, and then ask him questions
3 about that also.

4 MR. GIPS: We have sort of moved on to
5 the spectrum question, but I'm curious given what
6 we heard this morning about the head start that
7 cellular providers already have from the different
8 panelists, how do you all view the head start
9 problem in terms of creating a competitive market.

10 MR. PEPPER: By the way, it might be
11 useful to note who your clients are as you answer
12 these questions. Very seriously because somebody
13 passed up a question from the audience who are
14 these people sitting up here.

15 And as noted that -- you know, Jerry said
16 he conducted a study on some of these spectrum
17 issues and then the question was well, who is his
18 client.

19 MR. HAUSMAN: Well, my main client here
20 is the American public I hope.

21 MR. PEPPER: That's ours.

22 MR. HAUSEMAN: I know in the FCC bar that